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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/709,454	11/13/2000	Masaki Matsui	1-99	4344
23400	7590	11/21/2003	EXAMINER	
POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			SHAKERI, HADI	
			ART UNIT	PAPER NUMBER
			3723	19

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

09/709,454

Applicant(s)

MATSUI, MASAKI

Examiner

Hadi Shakeri

Art Unit

3723

J. W.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 44,47-58,61-65,67-69 and 74-79 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 44,47-58,61-65,67-69 and 74-79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 61-65, 67-69, 78, and 79 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 61, a cavity or gap extending in a direction perpendicular to the surface of the polishing cloth, renders the claim indefinite. Applicant refers to pages 18 and 19 for the support, but it is unclear what is being claimed, how does a gap or cavity make the pad soft and ease to penetrate, as indicated in the "Remarks"? Is applicant claiming a porous pad?

While the Examiner might speculate as to what is meant by the claim language, the uncertainty provides the Examiner with no proper basis for making the comparison between that which is claimed and the prior art. Rejections under 35 U.S.C. § 103 should not be based upon considerable speculation as to the meaning of terms employed and assumptions as to the scope of the claims. *In re Steele*, 134 USPQ 292. When no reasonably definite meaning can be ascribed to certain terms in a claim, the subject matter does not become obvious, but rather the claim becomes indefinite. *In re Wilson*, 165 USPQ 494. **No art applied to claims 61- in view of the above 112 rejections.**

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 44, 47-56, 58 and 74-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. or Urushidani et al. in view of Kido or Towery et al.

Both Kikuchi et al. and Urushidani et al. disclose all the limitations of claim 44, i.e., a method of mechanochemical polishing of a SiC wafer using chromium oxide, except for an oxidizing chemical liquid. Kikuchi et al. meets the operational pressure, Urushidani et al. does not specify the pressure, however, polishing the surface at a set pressure is a modification within the general knowledge of one of ordinary skill in the art, deepening on the operational parameters.

Use of oxidizing agents to promote polishing process is known in the art as evident by Kido and Towery et al. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify either method of Kikuchi et al. or Urushidani et al. with an oxidizing agent, e.g., hydrogen peroxide, as taught by Kido or Towery et al. to enhance the polishing process.

Regarding claims 45, 47-56, 58 and 74-77, PA as applied above meets the limitations, noting that selecting known material, grain sizes and/or processing pressure on the basis of its suitability for the intended use would be within the general skill of a worker in the art. It is also noted that in a method claim, reciting structural limitations not resulting in an additional step in the method would not further limit the method claim itself.

5. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art as applied to claims above, and further in view of Satake et al.

Prior Art as applied further modified in view of Satake et al. as indicated in the previous Office Actions meets the limitations.

***Response to Arguments***


6. Applicant's arguments filed 10/14/03, have been fully considered but are moot in view of the new ground(s) of rejection. However, regarding the process of mechanochemical polishing as shown in the "Remarks", it is noted that both Kikuchi et al. and Urushidani et al. describe precisely such process, and the Applicants' invention appears to be the modification of supplying oxygen to accelerate the process.

***Conclusion***

7. Prior art made of record and not relied upon are considered pertinent to applicant's disclosure. Breivogel et al. and Takahashi et al. are cited to show related inventions.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM. All official documents may be faxed to (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.

  
Hadi Shakeri  
Patent Examiner  
November 14, 2003